

CLAIMS

What is claimed is:

1 1. A display system for use in a vehicle, comprising:

2 a dashboard display, positioned in front of a driver
3 of the vehicle, and adapted to display graphic user
4 interface elements, in a predetermined graphic composition,
5 providing information to the driver regarding operation of
6 devices in the vehicle; and

7 a processor, coupled to receive signals from the
8 devices in the vehicle and to drive the display responsive
9 thereto, and to alter the graphic composition of the
10 display responsive to a selected input to the processor.

1 2. A display system according to claim 1 wherein said
2 graphic user interface elements provide information
3 regarding at least one device selected from the group
4 consisting of speedometer, tachometer, audio equipment, air
5 conditioner, Internet browser, television, GPS, sun roof,
6 windows, seat positioning, cellular telephone, fuel gauge,
7 oil level gauge, tire pressure gauge, engine temperature
8 gauge, brake temperature gauge, window-washer fluid gauge,
9 and headlights.

1 3. A display system according to claim 1 wherein the
2 processor is adapted to alter the graphic composition of
3 the display by adding a graphic user interface element to
4 the dashboard display.

1 4. A display system according to claim 1 wherein the
2 processor is adapted to alter the graphic composition of
3 the display by removing a graphic user interface element
4 from the dashboard display.

1 5. A display system according to claim 1 wherein the
2 processor is adapted to alter the graphic composition of
3 the display by changing the position of a graphic user
4 interface element on the dashboard display.

1 6. A display system according to claim 1 wherein the
2 processor is adapted to alter the graphic composition of
3 the display by changing the size of a graphic user
4 interface element on the dashboard display.

1 7. A display system according to claim 1 wherein said
2 input to the processor comprises a driver input provided by
3 a driver of the vehicle.

1 8. A display system according to claim 7 wherein said
2 driver input comprises a vocal input.

1 9. A display system according to claim 7 wherein said
2 driver input comprises selection of an image, icon or
3 button on the dashboard display, or selection of an item
4 from a pull-down menu on the dashboard display.

1 10. A display system according to claim 7 wherein said
2 vehicle also comprises driver-manipulable steering
3 apparatus, said display system further comprising a
4 selecting device mounted upon said steering apparatus, for
5 use by a driver of the vehicle in providing said driver
6 input.

1 11. A display system according to claim 10 wherein said
2 selecting device comprises a pointing device.

1 12. A display system according to claim 11 wherein said
2 pointing device is selected from the group consisting of a
3 joystick, a thumb-button, track-point, and pressure
4 sensitive hand-grips.

1 13. A display system according to claim 11 wherein said
2 selecting device also comprises clickable buttons located
3 upon said steering apparatus.

1 14. A display system according to claim 11 wherein said
2 selecting device also comprises clickable buttons located
3 upon said pointing device.

1 15. A display system according to claim 10 wherein said
2 steering apparatus comprises a steering wheel.

1 16. A display system according to claim 10 wherein said
2 steering apparatus comprises handlebars.

1 17. A display system according to claim 10 wherein
2 inputting said driver input to said processor does not
3 require the driver removing a hand from the steering
4 apparatus.

1 18. A display system according to claim 7 wherein said
2 driver input is selected from the group consisting of a
3 request to initiate a telephone call, a request to change
4 the internal temperature of the vehicle, a request to
5 utilize the GPA, and a request to adjust the audio
6 equipment.

1 19. A display system according to claim 1 wherein said
2 input to the processor comprises an input from a gauge of
3 vehicle performance.

1 20. A display system according to claim 19 wherein said
2 gauge of vehicle performance comprises a gauge selected
3 from the group consisting of speedometer, tachometer, fuel
4 gauge, oil level gauge, tire pressure gauge, engine
5 temperature gauge, brake temperature gauge, window washer
6 fluid gauge.

1 21. A display system according to claim 1 wherein said
2 input to the processor comprises an input from a monitor of
3 a status of vehicle components.

1 22. A display system according to claim 21 wherein said
2 monitor of vehicle components monitors the status of a
3 component selected from the group consisting of sun roof,
4 windows, seat, internal rear-view mirror, external mirror,
5 steering column, seat belt, door.

1 23. A display system according to claim 1 wherein said
2 input to the processor comprises an input from an auxiliary
3 device in the vehicle.

1 24. A display system according to claim 23 wherein said
2 auxiliary device is selected from the group consisting of
3 audio equipment, air conditioner, Internet browser,
4 television, e-mail terminal, GPS, cellular telephone,
5 travel log, pager and personal digital assistant (PDA).

1 25. A display system according to claim 1 wherein said
2 input to the processor is generated responsive to an
3 electronic signal from a source external to the vehicle.

1 26. A display system according to claim 25 wherein said
2 external electronic signal is generated due to an event
3 selected from the group consisting of receipt of an
4 incoming telephone call, receipt of an e-mail message,
5 download of a digital music recording, and receipt of a
6 traffic alert.

1 27. A display system according to claim 1 wherein said
2 dashboard display is personally configured for an
3 individual driver.

1 28. A display system according to claim 27 wherein said
2 display is personally configured responsive to an input to

3 the processor of driver preferences regarding the graphic
4 composition of the dashboard display.

1 29. A display system according to claim 27 wherein said
2 display is personally configured responsive to an input to
3 the processor of driver preferences relating to operation
4 of the dashboard display.

1 30. A display system according to claim 27 wherein said
2 display is personally configured responsive to an input to
3 the processor of driver preferences relating to operation
4 of at least one device in the vehicle.

1 31. A display system according to claim 27 wherein said
2 display is personally configured responsive to an input of
3 driver preferences to the processor at a location remote
4 from the vehicle.

1 32. A display system according to claim 27 wherein said
2 display is personally configured responsive to an input of
3 driver preferences to the processor within the vehicle.

1 33. A display system according to claim 32 wherein said
2 input of driver preferences comprises an input to the
3 processor while the vehicle is driving.

1 34. A display system according to claim 32 wherein said
2 input of driver preferences comprises driver preferences
3 learned by the processor while the vehicle is driving.

1 35. A display system according to claim 1 wherein at least
2 one configuration of the graphic composition of the
3 dashboard display is blocked while the vehicle is moving.

1 36. A vehicle comprising:
2 steering apparatus;
3 a dashboard display; and

4 a selecting device mounted on the steering apparatus
5 for use by a driver of the vehicle in interacting with the
6 display.

1 37. A vehicle according to claim 36 wherein said selecting
2 device comprises a pointing device.

1 38. A vehicle according to claim 37 wherein said pointing
2 device is selected from the group consisting of a joystick,
3 a thumb-button, track-point, and pressure sensitive
4 hand-grips.

1 39. A vehicle according to claim 37 wherein said selecting
2 device also comprises clickable buttons located upon said
3 steering apparatus.

1 40. A vehicle according to claim 37 wherein said selecting
2 device also comprises clickable buttons located upon said
3 pointing device.

1 41. A vehicle according to claim 36 wherein said steering
2 apparatus comprises a steering wheel.

1 42. A vehicle according to claim 36 wherein said steering
2 apparatus comprises handlebars.

1 43. A vehicle according to claim 36 wherein said dashboard
2 display is adapted to display graphic user interface
3 elements, in a predetermined graphic composition, providing
4 information to the driver regarding operation of devices in
5 the vehicle, and

6 wherein said vehicle also comprises a processor,
7 coupled to receive signals from the devices in the vehicle
8 and to drive the display responsive thereto, and to alter
9 the graphic composition of the display responsive to a
10 selected input to the processor.

1 44. A method for displaying information regarding
2 operation of in-vehicle devices, comprising:

3 receiving signals from the devices;

4 displaying graphic user interface elements in a
5 predetermined graphic composition on a dashboard display
6 positioned in front of a driver of the vehicle, so as to
7 provide information to a driver of the vehicle regarding
8 operation of devices; and

9 modifying the graphic composition of the display
10 responsive to a selected event associated with the vehicle.

1 45. A method according to claim 44 wherein said graphic
2 user interface elements provide information regarding at
3 least one device selected from the group consisting of
4 speedometer, tachometer, audio equipment, air conditioner,
5 Internet browser, television, GPS, sun roof, windows, seat
6 positioning, cellular telephone, fuel gauge, oil level
7 gauge, tire pressure gauge, engine temperature gauge, brake
8 temperature gauge, window-washer fluid gauge and
9 headlights.

1 46. A method according to claim 44 wherein modifying the
2 graphic composition of the display comprises adding a
3 graphic user interface element to the dashboard display.

1 47. A method according to claim 44 wherein modifying the
2 graphic composition of the display comprises removing a
3 graphic user interface element from the dashboard display.

1 48. A method according to claim 44 wherein modifying the
2 graphic composition of the display comprises changing the
3 position of a graphic user interface element on the
4 dashboard display.

1 49. A method according to claim 44 wherein modifying the
2 graphic composition of the display comprises changing the
3 size of a graphic user interface element on the dashboard
4 display.

1 50. A method according to claim 44 wherein said event
2 associated with the vehicle comprises a control signal
3 input by a driver of the vehicle.

1 51. A method according to claim 50 wherein said control
2 signal comprises a vocal input.

1 52. A method according to claim 50 wherein inputting said
2 control signal comprises selecting an image, icon or button
3 on the dashboard display, or selecting an item from a
4 pull-down menu on the dashboard display.

1 53. A method according to claim 50 wherein inputting said
2 control signal comprises manipulating a selecting device
3 mounted upon steering apparatus of the vehicle.

1 54. A method according to claim 53 wherein said selecting
2 device comprises a pointing device.

1 55. A method according to claim 54 wherein said pointing
2 device is selected from the group consisting of a joystick,
3 a thumb-button, track-point, and pressure sensitive
4 hand-grips.

1 56. A method according to claim 54 wherein said selecting
2 device also comprises clickable buttons located upon said
3 steering apparatus.

1 57. A method according to claim 54 wherein said selecting
2 device also comprises clickable buttons located upon said
3 pointing device.

1 58. A method according to claim 53 wherein inputting said
2 control signal does not require the driver removing a hand
3 from the steering apparatus.

1 59. A method according to claim 50 wherein said control
2 signal is selected from the group consisting of a request
3 to initiate a telephone call, a request to change the
4 internal temperature of the vehicle, a request to utilize
5 the GPA, a request to adjust the audio equipment.

1 60. A method according to claim 44 wherein said event
2 associated with the vehicle comprises an input received
3 from a gauge of vehicle performance.

1 61. A method according to claim 60 wherein said gauge of
2 vehicle performance comprises a gauge selected from the
3 group consisting of speedometer, tachometer, fuel gauge,
4 oil level gauge, tire pressure gauge, engine temperature
5 gauge, brake temperature gauge, window-washer fluid gauge.

1 62. A method according to claim 44 wherein said event
2 associated with the vehicle comprises an input received
3 from a monitor of a status of vehicle components.

1 63. A method according to claim 62 wherein said monitor of
2 vehicle components monitors the status of a component
3 selected from the group consisting of sun roof, windows,
4 seat, internal rear-view mirror, external mirror, steering
5 column, seat belt, door and headlight.

1 64. A method according to claim 44 wherein said event
2 associated with the vehicle comprises an input received
3 from an auxiliary device in the vehicle.
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1 65. A method according to claim 64 wherein said auxiliary
2 device is selected from the group consisting of audio
3 equipment, air conditioner, Internet browser, television,

4 e-mail terminal, GPS, cellular telephone, travel log, pager
5 and PDA.

1 66. A method according to claim 44 wherein said event
2 associated with the vehicle comprises receipt of an
3 external electronic signal.

1 67. A method according to claim 66 wherein said external
2 electronic signal comprises a signal associated with an
3 incoming telephone call, receipt of an e-mail message, or
4 receipt of a traffic alert.

1 68. A method according to claim 44 wherein displaying the
2 graphic user interface elements comprises personally
3 configuring the dashboard display for an individual driver.

1 69. A method according to claim 68 wherein personally
2 configuring comprises configuring the graphic user
3 interface elements responsive to an input of driver
4 preferences regarding the graphic composition of the
5 dashboard display.

1 70. A method according to claim 68 wherein personally
2 configuring comprises configuring the graphic user
3 interface elements responsive to an input of driver
4 preferences relating to operation of the dashboard display.

1 71. A method according to claim 68 wherein personally
2 configuring comprises configuring the graphic user
3 interface elements responsive to an input of driver
4 preferences relating to operation of at least one device in
5 the vehicle.

1 72. A method according to claim 68 wherein said inputting
2 driver preferences occurs at a remote location from the
3 vehicle.

1 73. A display system according to claim 68 wherein said
2 input of driver preferences occurs within the vehicle.

1 74. A method according to claim 73 wherein said input of
2 driver preferences occurs while driving.

1 75. A method according to claim 73 wherein personally
2 configuring comprises learning driver preferences while
3 driving.

1 76. A method according to claim 44 modifying the graphic
2 configuration comprises blocking some configurations of the
3 graphic composition of the dashboard display while the
4 vehicle is moving.

1 77. A method for controlling a dashboard display of a
2 vehicle comprising manipulating a pointing device located
3 upon the steering apparatus of said vehicle.

1 78. A method according to claim 77 wherein said pointing
2 device comprises a joystick.

1 79. A method according to claim 77 and also comprising
2 manipulating clickable buttons located upon said steering
3 apparatus..

1 80. A method according to claim 77 and also comprising
2 manipulating clickable buttons located upon said pointing
3 device.

1 81. A method according to claim 77 and also comprising:
2 receiving signals from in-vehicle devices;
3 displaying graphic user interface elements in a
4 predetermined graphic composition on the dashboard display
5 so as to provide information to a driver of the vehicle
6 regarding operation of at least one of the in-vehicle
7 devices; and

8 modifying the graphic composition of the dashboard
9 display responsive to the manipulation of said pointing
10 device.

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